

an abstract method for the function, the abstract method including parameters corresponding to union, in the logical sense, of all options of a specific command, defining a common command that includes arbitrary symbols corresponding to parameters of the abstract method... creating at least one driver... and executing by the driver one of the specific commands.... Independent Claim 20 recites that each command is capable of having at least one option... and means for defining an abstract class and abstract method for the function, the abstract method including parameters corresponding to a union, in the logical sense, of all the options of a specific command... means for creating at least one driver... and means for executing by the driver one of the specific commands.... Independent Claim 26 includes the language of defining in an abstract class an abstract method for the function, the abstract method including parameters corresponding to all of the options of a specific command, where the options are an argument that is capable of modifying a function of a specific command... creating at least one driver... and executing by the driver one of the specific commands....

The Office maintains “Steadham does teaches function SSINTER (E.G. Fig. 19, step 1906 and associated text) has all the options of function SSUNION (E.g. Fig 19, step 1902 an associated text) and function SSDIFF (E.g. Fig. 19, step 1904 and associated text). Therefore function SSINTER has all the union that contain all options of the selections sets (function SSUNION and SSDIF).”

As discussed with the Examiner, there is *absolutely* no correlation between the Autocad LISP subroutine relied upon by the Office and the definition of these functions and the features set forth in the claims.

Specifically, Applicant has secured from Autodesk, the makers of the Autocad® software, information (attached hereto) confirming our understanding that the definition of “selection sets” refers to selecting multiple objects in a computer aided design environment.

This, coupled with the description of the functions SSUNION, SSDIF, and SSINTER on column 33, lines 25-35 of the Steadham reference, makes it abundantly clear that the references, taken either alone or in combination do not anticipate or render obvious the claims.

Moreover, as previously discussed, Slaughter is directed toward a security system for a platform-independent device driver. At no point does Slaughter teach or suggest that the abstract method can include parameters corresponding to a union of all the options of a specific command. While Slaughter discloses in various locations that the classes include *objects*, at no point does Slaughter teach or suggest the above feature. Furthermore, as agreed by the Examiner, "Slaughter does not explicitly disclose mapping the options of each specific command to the common command." However, the Office Action points to Fig. 19 steps 1902, 1904 and 1906 of Steadham asserting that Steadham teaches "defining in an abstract class an abstract method for the function, the abstract method including parameters corresponding to the union and the logical since while the options of a specific command."

Steadham is directed to a completely different technology - an event management system which relates to a computer integrated event management system designed for use by hotels and entertainment producers in hotels and other facilities in which banquets, meetings, shows and other programs are held. The relied upon portion of Steadham relates to the EVENT/CAD program module and how it works with three different command structures. In particular, the EVENT/CAD program module accomplishes the command structure by implementing many different programs written in the Autolisp (Lisp) programming language and attaching them to a standard AutoCAD structure. The EVENT/CAD program module, by providing unambiguous, menu-driven processing and a number of subroutines whose operation is transparent to the user, is user-friendly while both avoiding trivialization and retaining the immense power of a CAD-based designed systems.

While Steadham discusses the ACAD.LISP subroutine in conjunction with steps 1900-1908 in Fig. 19, and defines a function called SSUNION, SSDIF and SSINTER, there is simply no correlation between the definition of these functions, which are specific AutoCAD routines, and the features as set forth in the claims.

In particular, the “SSUNION” function, which is called by the ACAD.LSP subroutine, creates a “union of selection sets by using the select command at step 1902.”

The SSDIF function creates a union of selection sets by using the select command with the R option and the SSINTER function creates a set of the intersection of selection sets. (See column 30-33 of Steadham)

However, at no point does Steadham teach or even suggest that the union is ever for *all* selection sets moreover all options of the selection sets.

It is well established law that the references must teach each and every feature of the claim, there must be a reasonable expectation of success, and there must be some suggestion or motivation to modify combined reference teachings to satisfy the requirements under 35 U.S.C. § 103. None of the relied upon references teach or suggest each and every feature of the independent claims. Moreover, since the references are from completely diverse technological fields there can be no expectation of success in their combination, since the combination would alter the principle operation of the references, and there is no motivation provided to combine the references. This is apparent in that the Office’s relied upon motivation as stated on page 5 of the Office Action is entirely circular in that it alludes to modifying Steadham with the teachings of Steadham to “map the options of each specific command to the common command.”

Golshani, as previously outlined, fails to overcome the deficiencies as noted above in relation to Slaughter and Steadham.

At least based on the above, it is readily apparent that the remaining claims are also patentably distinguishable from the references of record and the various rejections under 35 U.S.C. § 103 are not only untenable, but should be withdrawn.

A Notice of Allowance is earnestly solicited.

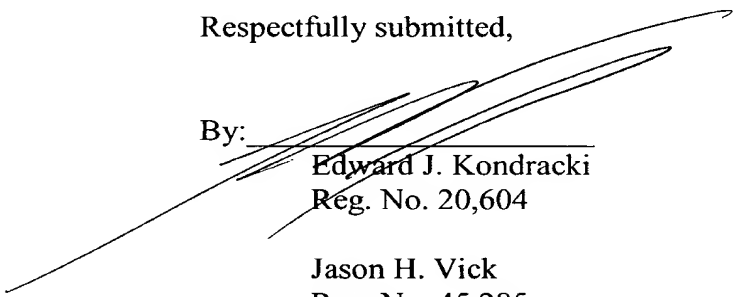
The Commissioner is hereby authorized to charge to deposit account number 50-1165 (Docket No. T2147-906520) and fees not included herein, under 37 CFR §§ 1.16 and 1.17, that may be required by this paper and to credit any overpayment to that Account. A duplicate copy of this page is included for such purpose. If any additional extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby requested.

Respectfully submitted,

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Autodesk VIZ: Saving Time Selecting Objects

By Nancy Fulton

Almost every editing operation you undertake in 3D Studio VIZ® software requires you to select objects. In this article we review the wide variety of tools 3D Studio VIZ provides for selecting objects, some techniques for creating named selection sets and groups, as well as tips for how to set up your designs so that you can later select objects more easily. By the time you complete this article you will have acquired skills that will make creating and maintaining your 3D Studio VIZ designs significantly easier.

Using a Mouse to Select Objects

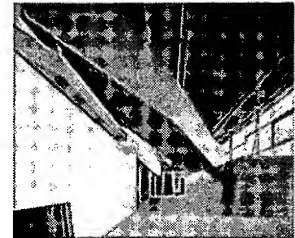
You probably already know that you can select an object in 3D Studio VIZ just by clicking on it. But did you know that holding down the CTRL key lets you select multiple objects? If you select an object by accident, just hold down the ALT key and click it again to remove it from the set of selected objects.

Note: When you select multiple objects in 3D Studio VIZ, you create a selection set. You can move, copy, scale, delete, and even apply modifiers to selection sets.

If you have to select a large number of objects, clicking them individually is time-consuming. The Selection/Xform toolbar contains tools that make it possible to select objects more efficiently. By default, this toolbar appears in the row of icons under the tab panel. If it's not visible on your screen, right-click on any toolbar and choose Selection/Xform. You can right-click on the toolbar to add it to the tab panel if desired. This makes it easy to find without cluttering up the interface.

If the Rectangular Selection Region icon on the Selection/Xform toolbar is enabled, you can select objects by creating a window around them (see Figure 1). If you select the Circular Selection Region icon, located under the Rectangular Selection Region icon on the flyout, selecting two points in a viewport creates a selection circle instead of a selection window. Selecting the Fence Selection Region icon lets you click a series of points that defines a selection boundary of any shape.

The Window/Crossing Selection toggle on the status bar determines how the Rectangular, Circular, and Fence Selection tools work (see Figure 2). If the Window toggle is selected, only objects inside the window, circle, or fence will be selected. If the crossing toggle is selected, objects inside or touched by the window, circle, or fence will be selected.



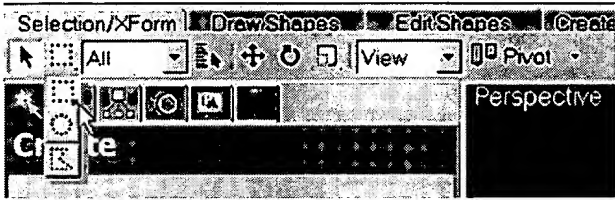


Figure 1: Select the Rectangular Selection Region icon to select objects by creating a window; create a window by clicking and dragging to select two points in any viewport.



Figure 2: The Window/Crossing Selection toggle determines how selection tools work. Setting the toggle to Window Selection means only objects inside a rectangular, circular, or fence selection boundary will be selected.

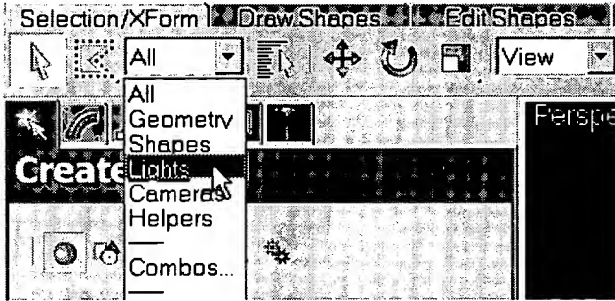
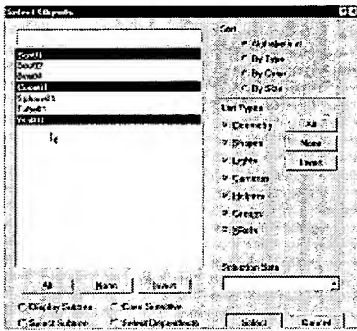


Figure 3: Use the Selection Filter to specify the type of objects you want to be able to select with your mouse.

Use the Selection Filter on the Selection/Xform toolbar to specify the kind of objects you want your mouse to be able to select (see Figure 3). Select Lights, for example, to ensure that you can only select the lights in a design.

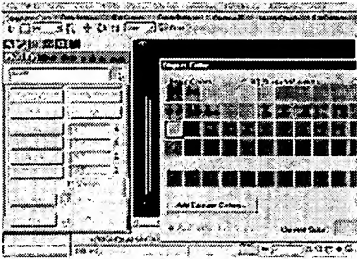
Selecting Objects by Name, Color, and Layer
Because 3D Studio VIZ designs usually feature hundreds or thousands of objects, it is often quicker to select them without using your mouse. From the Edit menu, choose Select by, then choose Name to see a list of the objects in a design. You can click to select a single object, or hold down the CTRL key and click to select multiple objects if desired. If you type characters in the text box above the list, objects in the list that start with those characters will be selected (see Figure 4).



View Larger Image
Figure 4: Enter h to display the Select Objects window.

Note: The Sort options in the Select Object list let you organize the objects in your design by color, type, size, or

alphabetically. Use the List Types options to display only objects of a specific kind in the Select Objects window. This makes it possible, for example, to display only the lights in a design.



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Figure 5: Assign colors to objects to make them easier to select.

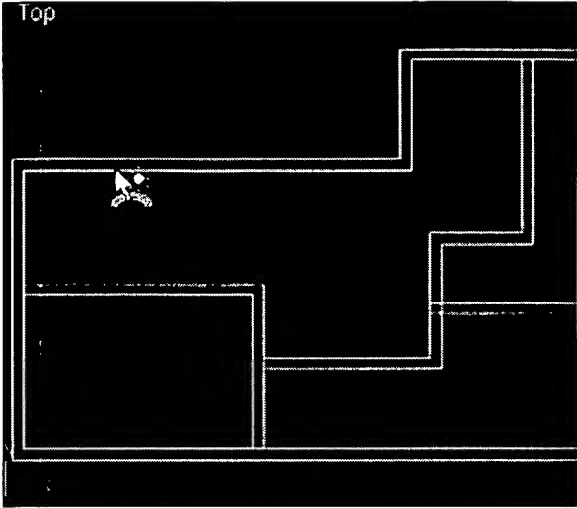


Figure 6: A special cursor icon appears when you are selecting objects by color. Move the cursor over any object in the right color and click to select all objects in that color.

In addition to selecting objects by name, you can assign colors to them so they're easier to select. To assign color, just select the object, choose the Modify tab on the command panel, then select the square color swatch to the right of the object name. Select the color you want to assign to the object using the Object Color window (see Figure 5).

To select objects based on their color, from the Edit menu, choose Select by, then choose Color. Move your mouse over any object of the right color, then click. All the objects in that color will be selected (see Figure 6).

When you import or link objects into 3D Studio VIZ designs from AutoCAD® drawings, the objects are often organized by layer. From the Modify menu, you can choose Layer Properties to see a list of layers in a design. To select all the objects on a layer, from the Edit menu choose Select by, then choose Layer. Select a layer name and

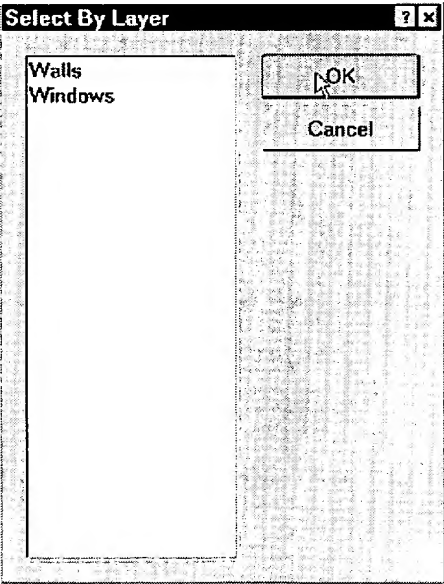


Figure 7: It's often easiest to select objects by layer when

all the objects on that layer will be selected (see Figure 7). those objects were originally created in AutoCAD.

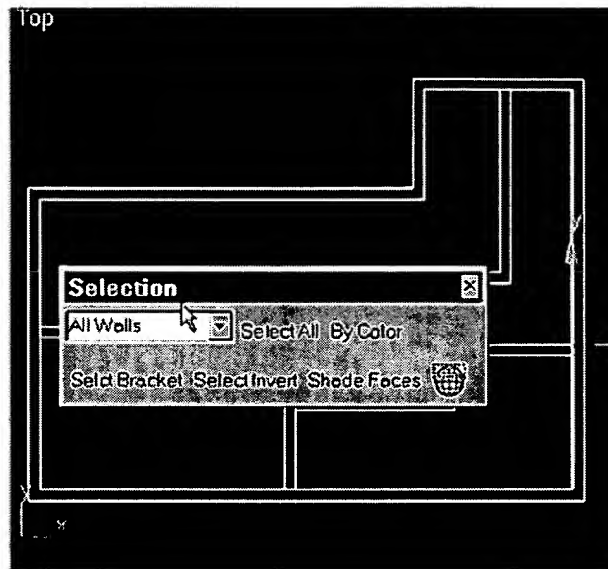


Figure 8: Creating named selection sets for groups of objects you edit or adjust frequently will save you lots of time.

Tip: Right-click on any object and choose Layer, then Add to Layer to move the object from one layer to another. If you prefer you can right-click on any toolbar and choose Object Properties. This displays the Object Properties toolbar, which has a layer list similar to that found in AutoCAD. You can then move an object to any layer just by selecting it, then selecting the desired layer from the layer list.

Named Selection Sets and Groups of Objects

Since selecting objects can be so difficult, 3D Studio VIZ gives you a way to name a set of selected objects so you can select them again quickly. Right-click on any toolbar, then choose Selection to display the Selection toolbar. Select any number of objects in your design, then type a name in the Named Selection Set box (see Figure 8). To select the objects again, just choose the selection set name from the list.

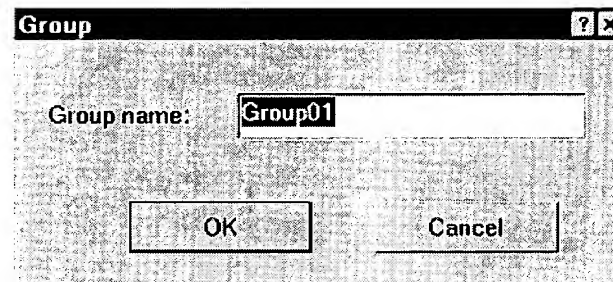


Figure 9: Create groups when you want several objects to be treated as a single object.

Sometimes you create a set of objects that you want to keep together permanently. Rather than creating a named selection set, you may want to create a group. A group is a named set of objects that 3D

Studio VIZ treats as a single object. If, for example, you select one element of a group, all the elements in the group are selected.

To create a group, start by selecting two or more objects. From the Draw menu, choose Group, then choose Create. Type a name for the group in the Group window, then choose OK. You will find that you can no longer select any element of the group without selecting the entire group (see Figure 9).

Note: You can create groups that contain other groups if desired. For example, you might create one group that contains the elements of a chair. You might then create a second group that contains four chair groups placed around a table.

If you want to modify any element of a group, you must Open, Ungroup, or Explode it first:

- Open a group when you simply want to make changes to elements of the group. You can then close the group again when you want the elements to be treated as a single object again.

- Ungroup a group if you decide that you don't want this specific set of objects to be treated like a single object.

- Explode a group when you want to ungroup a group and any subgroups that are components of that group as well.

To modify elements of a group, select the group, then from the Modify menu choose Group, then Open, Ungroup, or Explode.

If you want to add a new element to an existing group, start by selecting the object you want to add. From the Modify menu, choose Group, then choose Attach, then select the group. The new object will be added to the group.

Making Designs Easy to Select and Edit

You can help yourself by setting up your 3D Studio VIZ designs in such a way that object selection becomes easier, which will help you create, place, and modify the objects efficiently—and make your designs much easier to maintain and to share. This is especially important when you're dealing with dozens, hundreds, or even thousands of objects.

- Name created objects in a manner consistent with their use.

If, for example, you create seven lights in the lobby of your building, give them names like Lobby-Light01, Lobby-Light02, and so on. This lets you select them by name, which means you won't have to click them. This is important because in large designs, finding a single light icon may require you to zoom and pan several times.

- Use layers and colors to manage large numbers of objects that are on the same floor or are in the same area of a model.

It is handy to be able to move, hide, or display objects based on criteria such as the floor they are on or whether they are interior or exterior to the building.

- Create named selection sets for groups of objects you modify frequently.

By the third or fourth time you've painstakingly selected the wall faces

in a given room so you can adjust their material, it is probably time to name that selection set.

Group objects that will almost always be moved, modified, or deleted together.

Furniture, planters, human figures, and other such assemblies are much easier to manage as groups. After all, you are hardly likely to want to select and copy a single chair arm after the chair has been created. In most cases you will want to copy the whole chair, so put the elements of the chair in a group.

Conclusion

Learning to efficiently select 3D Studio VIZ objects will have a dramatic impact on your productivity because it's something you will do every time you edit an object. Take time to experiment with the techniques presented in this project and see how much more quickly your designs come together.

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